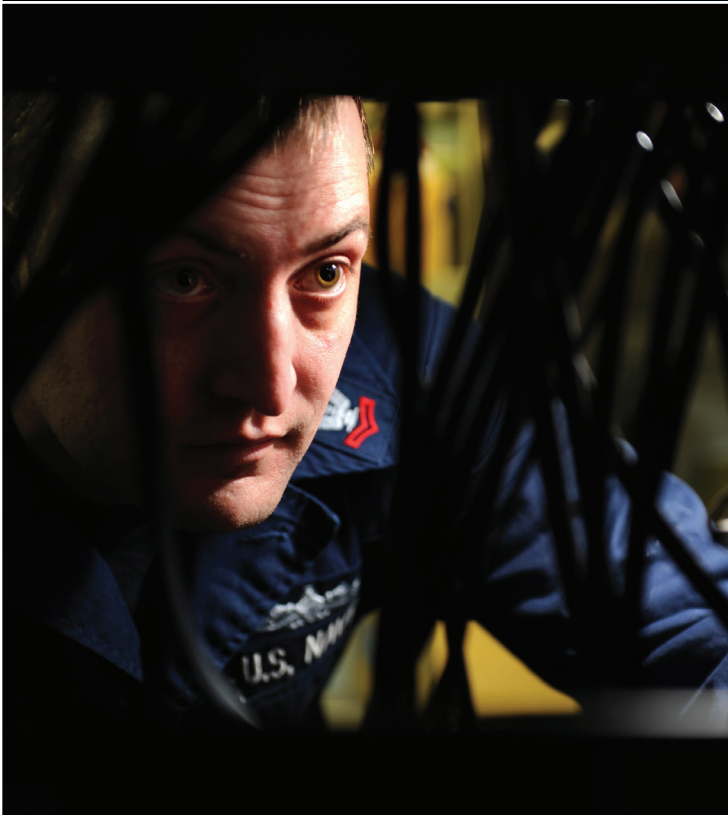




Connections You Can Count On.™

INDUSTRY SOLUTIONS: MILITARY



LESS IS MORE.

OCC MEANS LESS STRESS.

The military industry delivers the harshest of environments. That translates to the most punishing stress conditions and crush occurrences to cables and connectors. The need for rugged reliability and dependable service is paramount. You need products that withstand rigorous pressure. You need solutions that relieve worry and uncertainty. We are the experts in both.

LESS STRESS MEANS: MORE STRENGTH.

Our military-certified distribution and breakout fiber optic cables are optimized to withstand the rigors of difficult cable pulls and high tensile loading. Plus, they can endure the abuse associated with extreme environmental demands and repeated deployments.

MORE STABILITY.

OCC uses a unique manufacturing process where the outer jacket is extruded under pressure to the cable core. This effectively locks all the cable components together, creating a very stable geometry. The cable acts as a single mechanical unit, exhibiting very high crush and impact resistance.

MORE BANDWIDTH.

OCC cables are unmatched in offering the most practical and reliable means of high-capacity data transmission in challenging environments. They are optimized for applications requiring multiplexed voice, data, and video signals.

MORE SECURITY.

Security is crucial in the context of military deployment, and OCC delivers. Our fiber optic cables are all dielectric and therefore are never affected by EMI or RFI. In addition, they are extremely difficult to tap, which means a reduced need for encryption.

MORE EFFICIENCY.

OCC innovation often centers on designing products and solutions that can simplify time-consuming, difficult work. For example, our field-proven multi-channel hermaphroditic connectors allow cable assemblies to be daisy-chained together, making it easy to extend the fiber optic backbone system without the need for gender-changing adapters.

BOTTOM LINE: MORE VALUE

By thinking long-term and using innovative, high-performance products that were designed specifically for military usage, you'll have solutions that will save you money in the long run.

Cover Photo Credit: U.S. Air Force photo by Master Sgt. Trish Bunting, U.S. Air Force photo by Tech. Sgt. Rob Wieland
Pg. 2 Photo Credit: U.S. Navy photo by Mass Communication Specialist 3rd Class Kenneth Abbate



Connections You Can Count On.™

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NOT JUST PRODUCTS. ANSWERS.

At OCC, we've always been known for our innovative, reliable products. Thanks to the increasingly complicated demands of the military industry, our customers don't just need smart products—they need smart answers. That's why you can depend on the experts at OCC to provide data transmission solutions for every challenge. After all, together with leaders in the military industry, we've made fiber optic history. The strength of our military grade cable solutions was the foundation and inspiration for our diverse portfolio of products and solutions. Our commitment to product reliability can be seen in every industry that we serve.

RELIABILITY TESTING & INNOVATION:

At OCC, we take reliability seriously. So much so that, in order to ensure the highest transmission performance for your network, we independently test all of our products and innovations to standards above industry norms.

FIELD PROVEN INNOVATION. TACTICAL RELIABILITY.

THE CHALLENGES

Today's military personnel face a multitude of challenges due to the ever-changing operation theater. To improve safety and maximize situational awareness, US and allied military forces continue to upgrade communications and monitor infrastructure. Investing in fiber optic systems as a cost-effective network alternative provides essential communications solutions, including greater bandwidth for real-time voice, data, and video applications, all in an easily deployable platform.

THE CONNECTIONS

It is equally as critical that communication

systems yield a reliable network between the theater and command control center. OCC's suite of military-approved and certified fiber optic cables, connectors, and deployment systems offer the reliability and performance needed. Designed for uncompromised dependability in the harshest of conditions, OCC provides cable and connectivity products that have been tested to the most extreme military standards. They are "real world" battlefield proven.

CABLING INFRASTRUCTURE:

Our broad cabling portfolio offers the industry's strongest, yet highly bendable and bat-

tle-tested trunk, distribution, and breakout fiber cables. They are available in a myriad of fiber types, counts, jackets, and configurations, including copper cabling, to meet your specific backbone and network applications needs.

CONNECTIVITY & TERMINATION:

We offer a wide range of specifically designed fiber and copper connectors, enclosures, cabinets, patch panels, pre-terminated cable assemblies, and plug-and-play solutions for seamless integration, providing the most reliable network transmission and signal integrity.

CABLE MANAGEMENT & RACK SYSTEMS:

The future expansion of your network becomes fast, easy, low-maintenance—with any operational costs of the project minimized—as we offer the latest in blade, cassette, adapter plates, and racks and cabinets for your cable management needs.

REPAIR & RESTORATION:

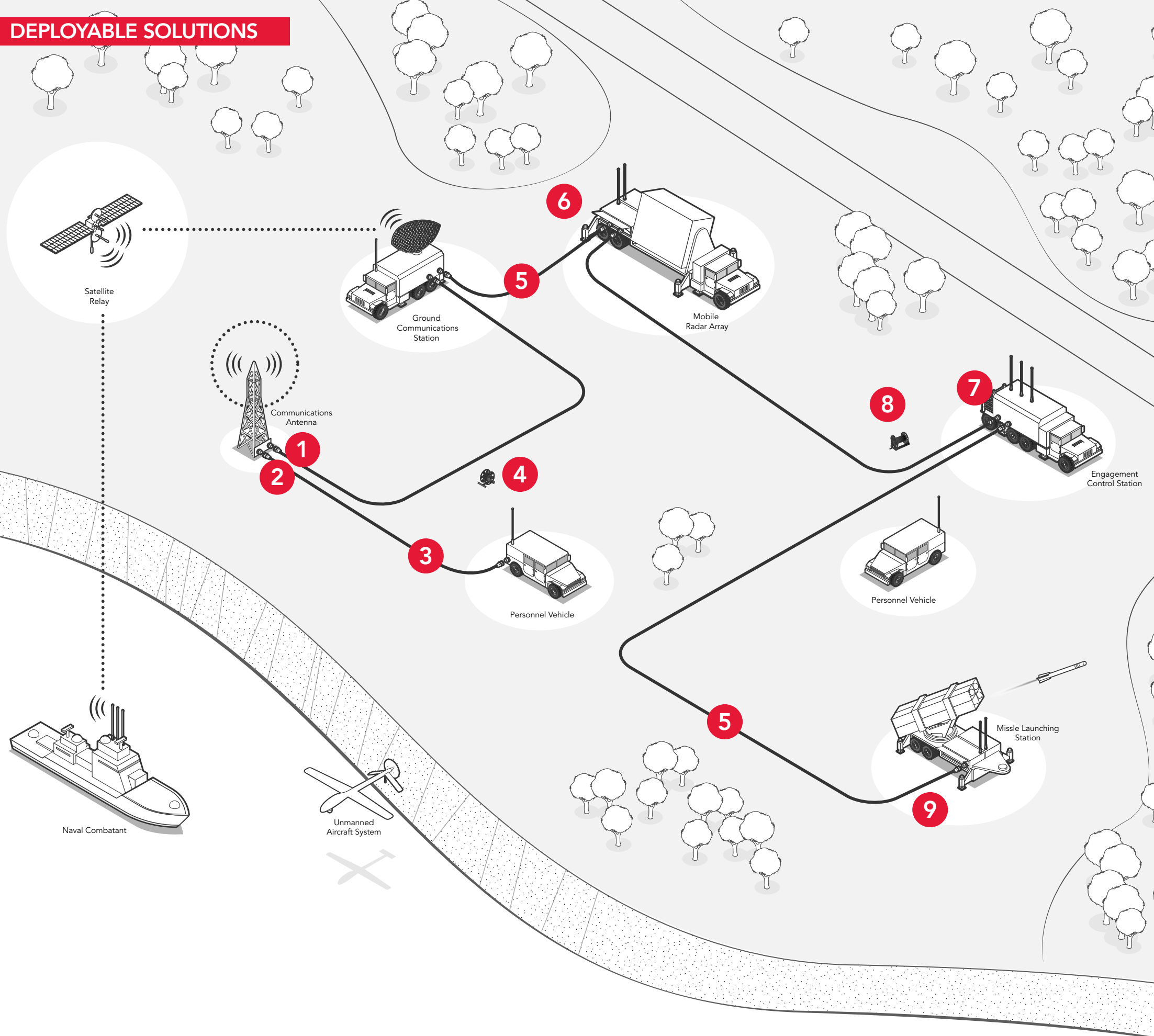
In a fast-paced industry where equipment wear-and-tear happens, OCC can also repair and restore your gear. Whether it's our own or our competitors' products, you can rely on us to maintain and test your cable assemblies for continued ongoing value.

DEPLOYABLE SOLUTIONS



You need your communications to operate seamlessly in deployable military applications. You need the most reliable and secure network available. The OCC family of rugged fiber and copper solutions support a full range of ground systems for the US Army, Navy, Marine Corp, and international military allies. From custom fiber hermaphroditic assemblies on deployable CECOM-approved MARS reels to our tried and true R-Jack copper solutions, OCC can provide end-to-end passive solutions for the following applications:

- Missile Systems
- Radar Systems
- Satcom Solutions
- UAV Ground Control
- Shelter to Shelter Communications
- Ship to Shore Communications
- Remote/Field Communication Centers



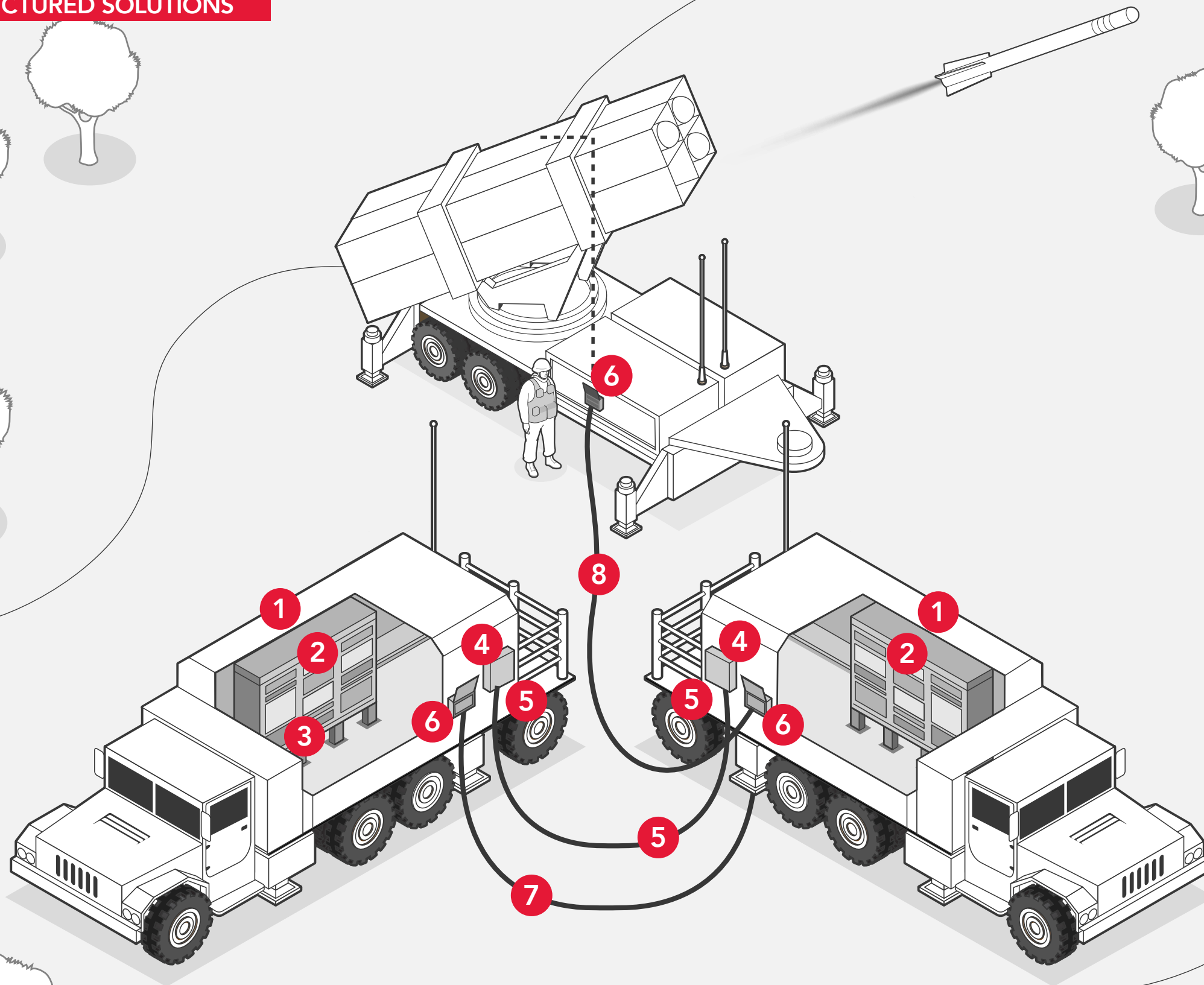
DEPLOYABLE SOLUTIONS

- 1  MHC®-T3 CABLE ASSEMBLY
- 2  R-JACK® INDUSTRIAL RJ-45 SOLUTION
- 3  CATEGORY 6 HIGH PERFORMANCE UTP COPPER CABLE
- 4  MARSTM™ TRIPOD
- 5  MARSTM™ REEL
- 6  B-SERIES BREAKOUT OR D-SERIES DISTRIBUTION MIL-TAC CABLES
- 7  MHC®-T3 CABLE ASSEMBLY, HC SERIES DEPLOYABLE CABLE
- 8  MARSTM™ ALRS ADVANCED LIGHTWEIGHT REEL STAND
- 9  COTS M83526 (TFOCA-II™) CABLE ASSEMBLY

Mission-critical information originates in a structured environment where reliability and security is paramount. Whether it's a mission control room at the Pentagon or a communications shelter in the field, OCC offers a proven solution for all structured applications. From rack mount enclosures, cassettes, copper and fiber patchcords to custom fiber assemblies, OCC can provide end-to-end passive solutions for the following applications:

- Data Centers Military Base and Government Buildings
- Mission Control Rooms
- Mobile Command Units
- Field Base Communications Shelters
- Missile Launch Backbone
- Ship Communications Systems

STRUCTURED SOLUTIONS



STRUCTURED SOLUTIONS

- 1**  SINGLE TERMINUS (ST) CONNECTOR CABLE ASSEMBLY
- 2**  RTC/RTS SERIES – RACK MOUNT FIBER ENCLOSURES
- 3**  CATEGORY PATCH CORDS
- 4**  NEMA 4X ENCLOSURES
- 5**  MHC®-T3 CABLE ASSEMBLY, HC SERIES DEPLOYABLE CABLE
- 6**  COTS M83526 (TFOCA-II™) CABLE ASSEMBLY
- 7**  MARS™ INTEGRATED AXLE A-FRAME
- 8**  B-SERIES BREAKOUT OR D-SERIES DISTRIBUTION MIL-TAC CABLES



MARS ALRS (Advanced Lightweight Reel Stand)

THE WISDOM OF SOLDIERS. THE LIGHTWEIGHT STRENGTH OF THE MARS ALRS. (Advanced Lightweight Reel Stand)

THE CHALLENGE

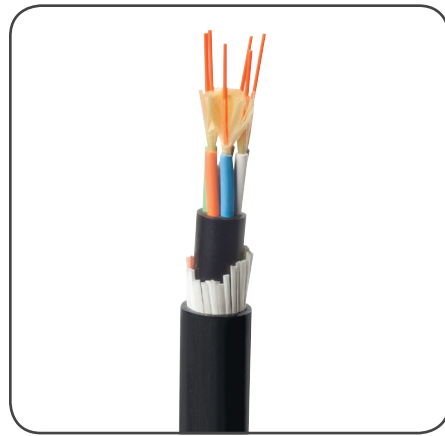
After positive feedback on the new MARS Reel from a four-month user evaluation at the Fort Gordon Signal School, OCC was handed another challenge: to improve their current reel stand. It weighed in at around 60 pounds and soldiers wanted something even more lightweight for field missions.

THE OCC SOLUTION

OCC created a prototype of the deployable reel stand that weighed in at just 19 pounds—an astounding 66 percent reduction in weight. After further improving the design using results from OCC's own rigorous testing, OCC engineers released the prototype to the Army Signal Corps. The new reel stand, with OCC's signature durability and reliability, was ready for testing in real-life field missions. The evaluation team reported that the new reel stands were easy to transport and performed well in every mission scenario.

CLIENT ASSESSMENT

The most telling comment of all the positive feedback was when the OCC team offered to take the evaluation prototypes of the ALRS back with them. The non-commissioned officers smiled and said, "No, we really want to continue training with these." OCC gladly agreed.



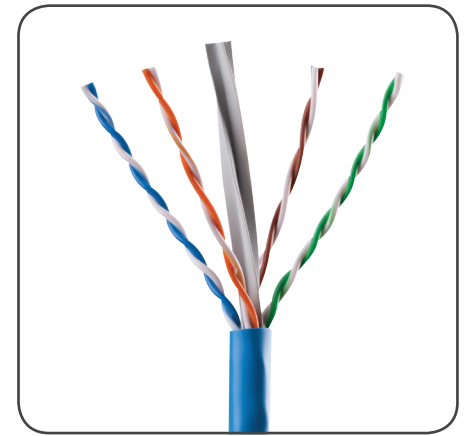
B-Series Breakout Mil-Tac Rodent Deterrent (FRP) Cables

The same reliable ground tactical cable you can trust for harsh environment applications but with an added layer of fiberglass yarn. This provides an effective deterrent to damage caused by small non-burrowing rodents.



B-Series Breakout Mil-Tac Cables

This ground tactical cable is ideal for use in harsh environments where deployment and retrieval for reuse are required. Best for applications that require termination of the subcables to a connector. These are extremely strong, lightweight, and rugged tight-buffered cables designed for military tactical field use and commercial applications.



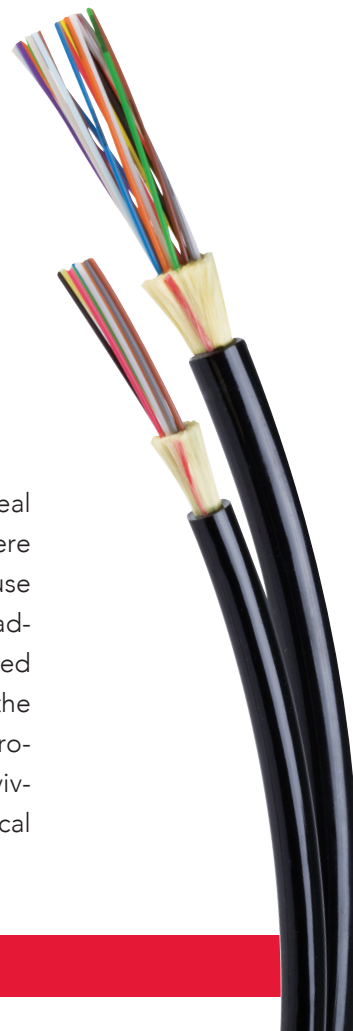
Category 5e, 6, and 6A Copper Cables

With the surge of high-bandwidth and non-stop emerging technologies, OCC offers a complete line of copper cable to allow the flexibility to design your network as you envision, and to solve your most challenging applications.



HC Series Deployable Cables

OCC's high-capacity cables bundle subgroups of 12 fibers into compact, flexible cables of up to 48 total fibers. They are ideal for harsh environment applications where deployment and retrieval for reuse are required.



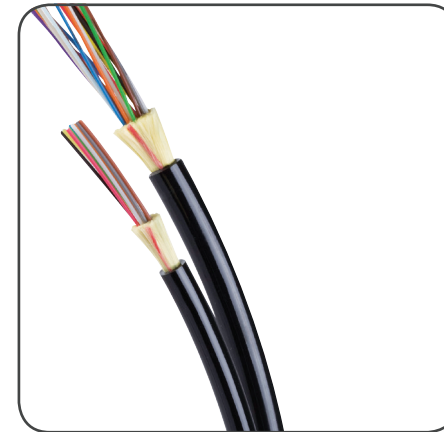
D-Series Distribution Mil-Tac Cables

Ground-tactical cable that is ideal for use in harsh environments where deployment and retrieval for reuse are required. Designed for use in adverse environments where reduced size and weight are important, the helically stranded cable core provides flexibility, deployment survivability, and exceptional mechanical protection for the optical fibers.



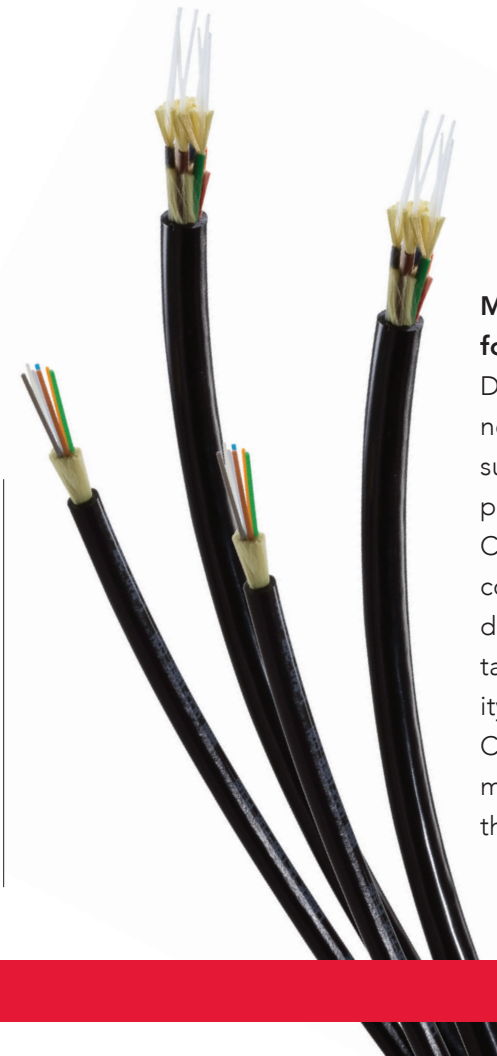
D-Series Distribution Mil-Tac Rodent Deterrent (FRP) Cables

When environments contain the threat and susceptibility of damage from small non-burrowing rodents, OCC delivers extra protection in this FRP cable. This rugged cable includes an added layer of fiberglass yarn that provides an effective deterrent to damage caused by small non-burrowing rodents.



DoD QPL-85045 Qualified Cables

Used when requirements demand products certified and approved to DoD MIL-PRF-85045. These fiber optic cables are specifically qualified for ground tactical use in the most extreme environmental conditions.



Military Tactical Fiber Optic Cables for Extreme Environments

Designed specifically for multi-channel harsh environment connectors such as COTS 83526, EZ MATE, Expanded Beam, MIL-C-28876, MIL-C-38999 as well as other standard commercial connectors. Specifically designed for extreme environmental conditions: temperature, humidity, ice, fungus, and fluid immersion. Cables are used extensively in domestic and allied militaries around the world.



COTS M83526 (TFOCA-II™) Connectors (Up to 12 CH)

This tactical fiber optic connector system features a hermaphroditic plug with integrated strain-relief and tactical cable retention systems. Available in either 4-, 6-, or 12-channel shell sizes, this family of connectors also features specifications for a wide variety of harsh environment companion receptacles.



EZ MATE Connectors (Up to 24CH)

The OCC EZ-MATE family of hermaphroditic-style fiber optic connectors provides a comprehensive connectivity solution for deployable or mobilized communications systems. Based on a hermaphroditic design, EZ-MATE connectors allow for quick deployment and gender-independent connectivity, permitting the end user to unreel fiber cable without regard for male or female ends.



Pierside Hermaphroditic Fiber Optic Connectors (6 CH-12 CH)

Designed to meet the stringent Pierside performance specifications (NAVSEA 7379171 performance and 7379172). It provides a genderless mating system perfect for applications requiring single-mode, multimode, or composite configurations in extreme environments.



R-Jack® Industrial RJ-45 Solution

The R-JACK® Ethernet Connector provides an efficient, comprehensive, and affordable solution for Ethernet connectivity in environmentally challenging applications. Unlike low quality plastic RJ-45 receptacles, OCC's R-JACK is designed to ensure performance and durability, even in the harshest conditions.



L-Jack™ Connectors

OCC's L-Jack (TM) is a robust fiber optic duplex LC connector that couples the small form factor of traditional LCs with the known ruggedness of OCC harsh environment connectors.



MHC®-T3 Connector

OCC's new patent-pending MHC®-T3 is the next generation in compact, high-density, fiber optic connectors. Utilizing environmentally-protected MT ferrule technology, the MHC®-T3 can deliver up to 48 single mode or multi-mode fibers in a smaller footprint than traditional cylindrical connectors.



MHC®-T2 Connector

OCC's Mini Hermaphroditic Connector, is an amazingly rugged, yet remarkably small connector suitable for industrial and harsh environments. Designed for quick and easy connections, the genderless mating of the MHC®-T2 connector provides a multitude of options for 2, 4, 6, and 8 channels.



QPL M29504/14 and /15 Fiber Optic Termini Connectors

Designed for outstanding optical performance in extreme environments. Widely regarded as the ideal fiber optic termini for harsh environments, these connectors have an enhanced design that allows the terminus system to withstand challenging environmental and mechanical conditions without optical degradation.



QPL M83522/16 and /17 MIL ST Connectors (Also available in COTS version)

OCC's ruggedized ST connector represents one of the best single-fiber connection systems available to industries where the ability to withstand extreme temperature change, shock, vibration, or corrosion is required.



Standard LC, SC, ST, FC, MPO/MTP Connectors

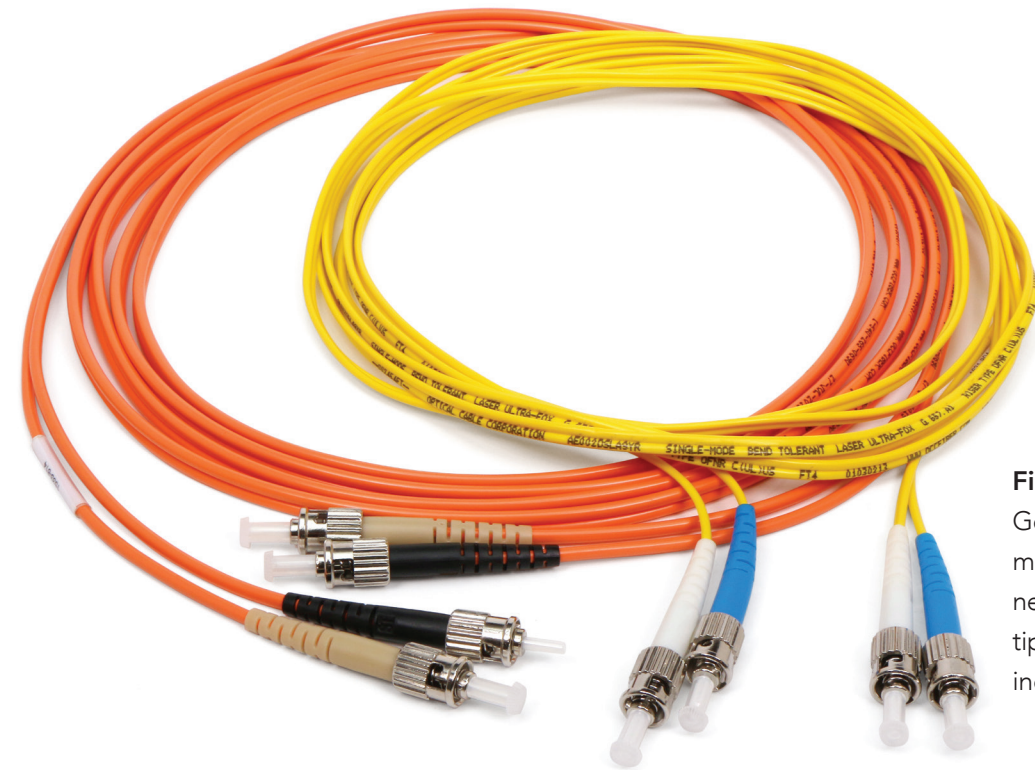
Complete system integration services for fiber optic assemblies using harsh environment fiber cabling systems.

FOR MORE THAN 25 YEARS, OCC has been dedicated to serving our customers worldwide with a broad range of the highest quality fiber optic assemblies. We make sure that our assemblies meet the individual requirements of the many varieties of fiber connectivity and backshells available in the market. We offer a diverse product family with the items you need, including tactical assemblies, and the commitment to deliver them when you need them. OCC has standard assemblies in stock for fast turnaround and we have the ability to create custom assembly solutions for your needs.



Tactical/Deployable Assemblies

OCC offers standard and made-to-order tactical assemblies. Harsh environment connectivity options include COTS-M83526, EZ MATE, Expanded Beam, MHC®-T2, MHC®-T3, Pierside, and L-Jack connectors. OCC can assist in designing your end-to-end assembly solution and we also offer swift Repair & Restoration services.



Fiber Optic Jumpers

Get exactly the jumper you need to make the transition from cross-connect point to the electronics. Multiple connectivity options available including LC, SC, ST, FC, and MTRJ.



MPO Fiber Optic Cable Assemblies

The OCC MPO-to-MPO Cable Assembly coupled with OCC's MPO Cassette Modules offers a true plug-and-play connectivity solution that effectively eliminates standard labor costs associated with fiber field installations.



Category Patch Cords

OCC created modular patch cords with guaranteed compliance that offer superior PSANEXT performance suitable for mitigation of alien crosstalk.



NEMA 3X and 4X Enclosures

Well suited for high and low temperatures, OCC's corrosion-resistant enclosures are designed to protect fiber optic network components against harsh environments. These cabinets are indoor/outdoor rated and constructed of strong, molded, fiberglass-reinforced polyester material.



RTC/RTS Enclosures

Our line of fiber optic enclosures allow for easier termination, greater capacity, and uncomplicated cable management. All OCC fiber optical enclosures can be ordered pre-assembled with pigtails and adapter panels.

MODULAR ADVANCED REEL SYSTEM (MARS™)

OCC's Modular Advanced Reel System (MARS™), the industry's first lightweight cable deployment reel system, is designed specifically for the demanding needs of harsh-environment fiber optic installations.

MARS™ Reel

OCC's Modular Advanced Reel System (MARS) is a lightweight, modular system that is easily transported. It is ideal for applications where cable needs to be deployed, reeled in quickly, and stored efficiently. OCC MARS reels were tested and approved to the US Army CECOM specification A336463A.



MARS™ Backpack

Lightweight frame allows mobile cable deployment by one person. Ideal for quick deployment in difficult terrain. Accommodates standard MARS reels without modification and a second reel can be installed for longer deployments. Cable can also be deployed and retrieved with backpack on the ground.



MARS™ Advanced Lightweight Reel Stand

OCC's new ALRS series of lightweight reel stands represent a significant advancement in cable deployment and retrieval technology. The ALRS is a highly portable, folding A-frame stand used for paying out and retrieving cable (both copper and fiber optic) in a harsh environment. Designed for quick and easy deployment and operation, the ALRS requires no tools for set up. Additionally, when configured for transport, all pieces are maintained within the unit.



MARS™ Cleaning Kit

OCC's MARS meets the challenges of today's harsh environments by offering an integrated solution to clean and maintain multi-channel cylindrical fiber optic connectors in the field. MARS can be provisioned with a variety of cleaning kits that correspond to popular connector styles.



MARS™ Reel Acquisition Cradle

The MARS Cradle allows reels to spin for deployment and retrieval without an additional frame. Straps secure reel in place during transit to prevent damage or shifting. Can be mounted independently to a surface or mounted into transit cases.



MARS™ Tripod

OCC's Tripod Design allows for disassembly into four components for easy shipping and storage. Pin latches are tethered to base and lock into place. Axles are easily interchanged and available in 100, 300, and 500M sizes.



MARS™ Integrated Axle Reel (A-Frame)

Easily deployed and stored base for 750M and 1000M reels. U bearing allows for convenient swapping of reels. Pin latches secure reel during deployment. Integrated crank handle allows for easy acquisition of cable.



MARS™ Transit Case with Acquisition Cradle

OCC's MARS Transit Case with Acquisition Cradle Turn-Key Transit Case with deployable cradle secures reels, while built-in cradle enables fast deployment without additional set up.

RELIABILITY TESTING & INNOVATION:

OCC has always manufactured the most rugged and robust fiber optic cables for the military ground tactical market – field-proven cables relied on by defense agencies around the world. In 2005, the United States Defense Logistics Agency certified OCC as an approved manufacturer of qualified ground tactical fiber optic cables in accordance with MIL-PRF-85045/8. This certification was granted after subjecting these fiber optic cable products to an exhaustive series of optical, mechanical, and environmental tests to ensure full compliance with the demanding requirements of the United States military. Now, OCC mixed fiber ground tactical cable products, comprised of a combination of single-mode and multimode fibers, are approved to DLA specification 09001 and are set to provide the next generation of tactical fiber cable communications.

CERTIFICATIONS:

OCC's fiber optic cables and connectors have been qualified to the most demanding military specifications, including:

- **MIL-PRF-85045/8** Ground Tactical Fiber Optic Cable (US DoD)
- **DLA 09001-01 & -02** Approved Hybrid Tactical Cables (US Marines)
- **A3159879** Ground Tactical Fiber Optic Cable (US Army CECOM)
- **MIL-PRF-29504** Fiber Optic Connector Termini (US DoD)
- **MIL-C-83522** Fiber Optic Connectors (US DoD)
- **A3159869** and **A3302584** "TFO-CA" Ground Tactical Fiber Optic Connectors (US Army CECOM)
- **C-83526** Multi-Channel Hermaphroditic Connector Series
- **A336463A** Performance Specification, Reel, Cable, Light-weight tactical (US Army CECOM)
- **A3159864** and **A3302584** Ground Tactical Fiber Optic Cable Assemblies (US Army CECOM)
- **Def-Stan 60-1, Part 3** Ground Tactical Fiber Optic Cable (UK MOD)
- **MIL-STD-790G**, High Reliability Manufacturing Requirements for Military Supplier (DoD certified facility)



LEAD TIME:

- 24-hour turnaround on quotes
- 1 to 3 days to repair, if necessary materials are on-site
- 3 to 5 days to repair, once materials not on-site are received

REPAIR & RESTORATION

In the fast-paced and intense military industry, products need to be durable and reliable. But the reality is that breaks happen, and they need to be fixed quickly.

At OCC, we not only offer reliable products, but also Repair and Restoration Services for most rugged connectivity and cable products on the market. OCC's Repair and Restoration Services provide value to our customers, whether it's through our diverse product family or helping to extend the life of our competitors' products. OCC also offers ongoing maintenance and testing of your cable assemblies.

Please contact an OCC Representative at **1-877-509-1500** for a quote and lead-time estimation.

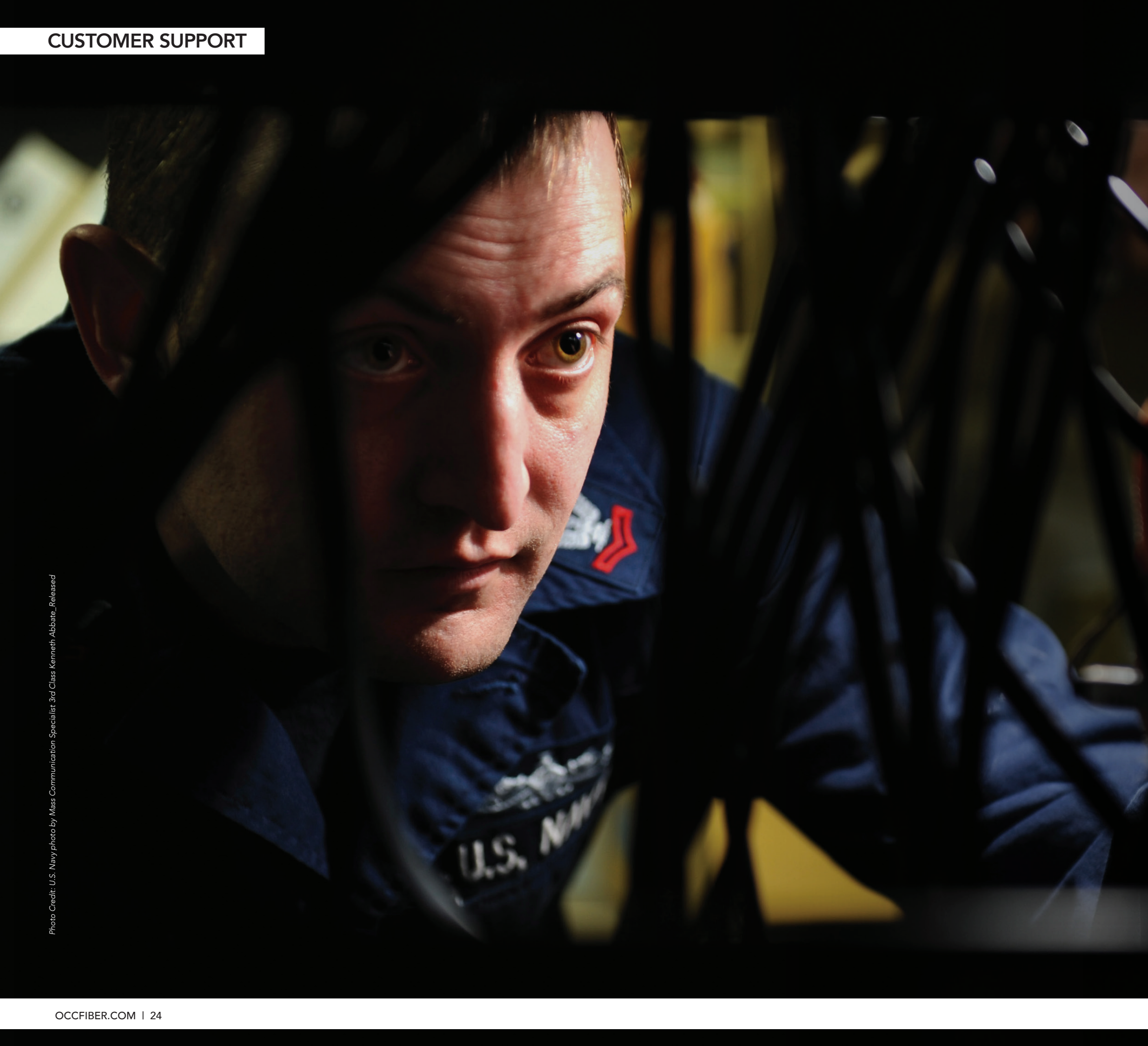


Photo Credit: U.S. Navy photo by Mass Communication Specialist 3rd Class Kenneth Abbate, Released

TECHNICAL AND DESIGN-BUILD EXPERTISE

Instead of relying on OCC just for products, more and more of our customers rely on our design-build expertise. Our design engineers and technical staff provide unprecedented service, support, and assistance.

ONE-STOP SHOP

Since we provide one of the largest network-solutions portfolios in the industry, many of our customers rely on OCC as their one-source solutions provider. From the most reliable end-to-end cabling and connectivity systems, down to the shortest patch cable, we can meet your every network need.

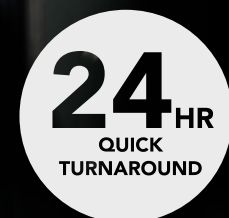
CUSTOMER-DERIVED INNOVATIONS

We partner with you, our customer, and listen to your needs. Thanks to our customers, we've designed, innovated, and customized some of the best solutions in the industry, providing the speed, immediate scalability, space savings, and ultra-high performance demanded by zero-downtime networks of all sizes.

COMPETITIVE WARRANTY PROGRAMS

OCC, in conjunction with certified Multimedia Design and Integration Specialist (MDIS) installers around the world, is able to offer various competitive warranty and extended warranty programs. OCC has developed warranty plans that offer a flexible approach to long-lasting network installations.

QUICK SHIPPING



SAME DAY SHIPPING ON IN-STOCK ITEMS IF ORDERED BY 12PM, EST.



Connections You Can Count On.™

GLOBAL PARTNERS & LOCATIONS



VISIT OCCFIBER.COM

OCC ROANOKE, VA

Corporate Headquarters and Fiber Optic Cable Manufacturing Facility

5290 Concourse Drive
Roanoke, VA 24019 USA
540-265-0690 or 800-622-7711

OCC DALLAS, TX

Harsh Environment and Specialty Connectivity Manufacturing Facility

1700 Capital Avenue, Suite 150
Plano, TX 75074 USA
972-509-1500 or 877-509-1500

OCC ASHEVILLE, NC

Enterprise Connectivity Manufacturing Facility

33 Superior Way
Swannanoa, NC 28778 USA
828-298-2260 or 800-880-7674

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For the most up-to-date information on all of OCC's products, news, and information, visit our website at occfiber.com. Registered users get added benefits, access to additional information and white papers, and more.



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facebook.com/OCCSolutions



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twitter.com/occsolutions



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youtube.com/user/occsolutions



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